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v Ljubljani

Fakulteta *za kemijo*  
*in kemijsko tehnologijo*

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**VABILO NA PREDAVANJE  
V OKVIRU DOKTORSKEGA ŠTUDIJA  
KEMIJSKE ZNANOSTI**

**prof. dr. Timothy D. Vaden**

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z naslovom:

**Acidic and aqueous ionic liquid solutions for  
proton transfer and biomedical applications**

**v petek, 25. novembra 2016 ob 15:00 uri**  
v predavalnici 2 v 1. nadstropju Fakultete  
za kemijo in kemijsko tehnologijo, Večna pot 113

*Vljudno vabljeni!*

**Abstract:**

Recent years have seen a dramatic increase in the utilization of ionic liquids for biomedical and biochemical applications. Ionic liquids in aqueous solution have been added to protein solutions to increase solubility, prevent aggregation, modulate enzyme activity, and enhance antibiotic activities. The nature of proteins in aqueous ionic liquid solutions remains an open field of fundamental research seeking to elucidate interactions between ionic liquids and proteins and the effects of these interactions on protein stabilities, structures, and conformational dynamics. We have characterized the structures and stabilities of model proteins myoglobin, BSA, and red fluorescent protein in different ionic liquid solutions. We have used protein-melting experiments to quantify protein stabilities, unfolding kinetics experiments to characterize conformational dynamics, and HDX-MS experiments to probe protein structures. By comparing results in the presence and absence of ionic liquids we can understand how these novel additives interact with to stabilize or destabilize different protein structures.